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ABSTRACT

This paper presents five snapshots of data collected by adult basic math students taking part as co-researchers in a project to investigate the discourse of an adult basic math classroom. The work is presented against a background of the Freirean influence on adult literacy and numeracy. The notions of empowerment and dialogue in the Freirean model are challenged. These samples present evidence that some of the usual ways of gathering data are flawed, and further that a research culture in the classroom fosters shifts in both classroom and research discourses. (Author/KHR)

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A 'Democratic Classroom', but Who Speaks Loudest?

Alison Tomlin

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A 'democratic classroom', but who speaks loudest?

Research with basic mathematics students[1]

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Abstract *This paper presents five 'snapshots' of data collected by adult basic maths students taking part as co-researchers in a project to investigate the discourse of adult basic maths classrooms. The work is presented against a background of the Freirean influence on adult literacy and numeracy; the notions of 'empowerment' and 'dialogue' in the Freirean model are challenged. I argue that these samples present evidence that some of our usual ways of gathering data are flawed, and further that a research culture in the classroom fosters shifts in both classroom and research discourses.*

When I started work as a part-time tutor on a research project into discourse in adult basic maths classrooms, I invited the students to take part as co-researchers. In this paper I use snapshots from our joint work to raise questions about 'empowerment' and research. Four course groups, each between six and ten students, were involved over a period of two years (with some overlap when students continued for a second year), meeting for two hours a week. Most of the students had difficulties with reading and/or writing and spelling, and also attended literacy or English courses. Some have become actively involved in designing the project and see themselves as co-researchers; others were less consistently involved but took on specific pieces of work, including data collection and/or analysis. Here I look at five examples of our work, which I will argue illustrate approaches to teaching and learning maths but which also present challenges to some of our usual ways of gathering data.

1. Maths life histories

Four students in one group drew line graphs of their maths histories. This work was done as part of an introduction to line graphs, and came after about 15 meetings of the group. In that time, we had already discussed students' experiences of maths in some detail, and all had done some writing about it (some dictated it, to enable them to get round spelling problems) which was read in the group.

Joyce drew a graph which started high, with a written comment 'Handling money, but you didn't count that as maths', then slid down: 'decided no good at maths when I started adult classes'. Emma said hers would be flat: 'I need the paddles, like in *ER*!' *ER* is a US hospital drama; Emma's idea of graphs uses the

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image of a cardiograph, with a flat graph indicating a stopped heart. In fact her completed graph for her adult years was highest when she had paid work and consistently fell when she was unemployed; paid employment and confidence in maths seem for her to go together. One student recorded on her graph that she had been to special school and had had speech difficulties; one of the dips in her school maths had the comment 'Went down in maths when doing graphs etc', thus telling us that the particular section of course we were starting reminded her of one of the worst times at school. Carol's was flat but *high*; she said she had always enjoyed maths, even though she had not had a successful school experience. These graphs were shared with another group, where Sandra said, 'Oh, I hate graphs, I hate that paper!' She then drew her own map of her maths experience, on plain paper.

We haven't space here to go into everything the graphs showed. We discussed them at length in the two groups, and in the discussion the writers added extra comments. We noticed that all the graphs had a y-axis which represented confidence (rather than, say, skills in maths, or time spent studying or using maths) and all had an x-axis which represented age. So the students' measurement of 'up' or 'down' in maths revolves around confidence rather than technical skills, and the graphs are a new way of showing autobiography.

This seems, then, for some people to be a useful way of representing maths histories and an alternative to some of our more usual approaches. The students were perhaps creating a new genre, using visual images, numbers and words combined. The graphs get round the need for good technical reading and writing skills, and offer a vehicle for group discussion and analysis. However, they also raise an issue about how students and tutors get to know each other. We had already worked on personal maths histories, and indeed my notes of the discussions and the students' writing form part of the data for my research. The graphs revealed omissions in the earlier work. I hadn't known that adult maths education knocked Joyce's confidence down; that Emma's maths was tied to employment; that one student had a history of speech difficulties; that two people dreaded or hated work on graphs; or, indeed, that one was entirely cheerful about maths. The point here is not that graphs are a magical way forward (some students, for example, chose not to do them at all), but that we should be more aware of how much of their experience students may choose to withhold from the group or the tutor. The liberal discourse of adult basic education holds that tutors 'build on students' experiences'; we need to be more sceptical about how much we understand of those experiences.

2. An interview: 'the course is a bit wishy-washy'

We use interviews as a way of trying to understand what our students think, or what their experiences are. But one piece of work shows the limits of what we find out.

Pat and Cathy interviewed each other about writing their maths diaries. I gave them a tape recorder and some questions, with one open-ended question at the end, about whether there was any advice for students or tutors. I meant the 'advice' to be about using maths diaries. This is part of the 'advice to tutors':

Cathy — I have enjoyed the course, but sometimes I think it is a bit wishy-washy. You get told that you have done very well because you're *almost* right, or on the right tracks. But in maths I think you're either right or you're wrong. I wish you were told you had got it right, or you had not got it right. It's kidding yourself.

Pat — But you are gaining more than you thought you would. I think the confidence I do have is because of the teacher. Being adults, and having children of our own, and feeling inadequate when our kids come home and we're not able to help them - having the right teacher and being in the right atmosphere and company, it does help.

Cathy — Yes, and maybe that's why the teacher never says, 'You've got that all wrong'. What would be the point? You probably wouldn't come back. And it's only Basic Maths, perhaps at this stage it's not all that important.

The students seized a bit of time that was less directly controlled by the tutor to debate and work on issues that I had understood quite differently. This interview gave me a view of the course that would usually be closed to me. I thought I was teaching a course that might help people to see themselves as creators of maths; to understand maths is not always right or wrong; and to understand maths is socially constructed. Pat and Cathy saw me as *kind* to them; I confirmed for them that they are only 'basic'. This is a revelation about a relationship of patronage.

The interview was supposedly about diaries; Cathy and Pat used the one more open question to tell me much more important criticisms. Pat played the tape for the rest of the group; it was not meant to be a private word in the teacher's ear. They knew I would be listening to the tape, so this is not in any way a 'window' into their 'true' ideas about the class. It does however suggest that the more usual interviews, in which the tutor/researcher interviews the students, may be very restrictive.

3. The students' meeting: 'Tutors are sort of loudly spoken'

A group of eight students, from two centres, worked together to organise a meeting for students about maths. The meeting, held in a community centre in South London, was attended by about forty students, who came from four different organisations (a Further Education college, two community centres and a local authority education service). One issue was the dominance of tutors who

had come to support their students. These are some comments from student organisers, made in discussion after the conference:

> Tutors, I thought there was no tutors! At the back please, keep quiet, just take notes, I felt like saying. The whole idea was for the teachers to listen, and take notes or whatever, and for us to do everything. [A tutor] kept on asking questions, she was directly looking at me, and do you know what I mean? I felt really intimidated. (Shazia)
>
> I think the tutor should have took a back seat and let the students interview the students, and just listen to what's being said. (Jeremy)
>
> Tutors are sort of loudly spoken. (Lorraine)

I should stress here that I (a tutor) did not see any evidence of domination by tutors, other than the anger and anxiety generated in the students. Our rôle as tutors, with all the influence and authority it carries, makes us intimidating, however democratic our intentions. The message is that to discuss how maths education should be organised, students need space without tutors there.

The students used most of the time at the conference to discuss the curriculum and compare experiences of South London maths education. These are some quotes about the curriculum:

> The woman [a tutor] was saying you need maths for measuring and all of that thing what you is doing, and I thought, how can she ask those questions? Why can't she just go? (Antoinette)
>
> The [question] that got me, is the one with, which is the best thing, going through text books or doing ... news articles. And I said both, I said both. (Shazia)
>
> Many different ways to do maths. (Notes from a small group discussion)

There is not one curriculum. People want choices, and they don't want tutors telling them what they need. The conference was a success, and led to ...

4. A magazine of students' writing

Global Maths, a 52-page magazine, was written, edited and produced by students, and includes maths life histories and reports of the discussions at the students' meeting. It represents a written report, addressed to both students and tutors, of some of the students' research in this project, and is thus a challenge to the public discourse of adult basic education, where it is taken for granted that students don't do research: aside from their 'lack of basic skills', they 'lack confidence'.

I analysed data from the magazine and the conference, and found the students' reasons for studying maths fell into four main areas (with much overlap): for everyday needs, including shopping, measurement, and employment; to recover from previous failure; to help children; and for enjoyment and intellectual challenge.

The problem is - so what? This does not distinguish basic maths students from research mathematicians. This leads me to a difficulty about generalising about students. Generalisations we can make, like this one, are useless because they are not specific - they cover the population of the world. Other generalisations are rejected by students, as we saw in their discussion of the curriculum.

5. Classroom observation

One group decided to observe their own class. I assumed one or two would do the observing, and I took in six sample observation schedules for the group to choose from, or amend. In fact the group of six students decided they would *all* observe the class, each using a different schedule. We did it for two lessons, and then four of the students together collated the results.

Tutor's questions to ...	**group**	**women**	**men**
Genuine question - wanting to know the answer	1	8	6
A question to find out if the student knows something.		2	11
A question to help the student work something out.		3	6
Other sorts of questions	3		3
Totals	4	13	26

Here I reproduce the collated results of just two of the observations: 'Tutor's questions', and 'Who does the talking?' (The others were students' questions, timed observation of class activity, teacher/student interaction and students' responses to the class.)

This first table shows the collated results of the 'Tutor's questions' observation schedule. In it we see that I asked the two men twice as many questions as I asked the four women.

Names →	Andy	Alison (tutor)	Priya	Trevor	Theresa	Carol	Joyce
Talking to whole class		3		1	1	1	
Talking in a small group or a pair	6			2	9	11	7
(Students) Talking to the tutor	4	6	6	6	2		1
TOTALS	10	9	6	9	12	12	7

The next table shows *'Who does the talking?'*

Theresa, Carol and Joyce all have a higher score for 'talking in a small group'; in the group discussion about the observation results they said they enjoy working together and helping each other.

This data is inaccurate, of course. Every observer was also observed, and meanwhile we were trying to continue 'ordinary' classes. We all had to remind each other to keep observing, and we ended up spending most of both the observed classes laughing at each other. I was listed as talking to myself six times, so we can see some of the tallying was inaccurate (and this was also shown by a tape transcript of one of the classes). However, that's not the point. The observation exercises, and discussion of the data (both the transcript and the tally sheets) changed the discourse of the classroom. For example, my lesson plan for the first observed class included individual work with two students (who happened to be men), and I knew I would balance it the following week - but that plan was mine, not the students', and what was apparent to the group was simply the teacher spending time on the men. After the observations and discussions, one of the women was able to interrupt one of the men talking to me: 'You're a man! consider your teacher!' Students' own preferred ways of working, including whether they like to be quiet (like Priya) or discuss things with each other, are up for debate. Students' evaluations of the term (including comments from two women about how much the men talked) were more critical than usual. We became more self-aware and could talk about group processes more easily.

Students as researchers

These five pieces of work suggest that data I had previously collected was flawed. We say we build on students' experiences - but we need to question how we come about our knowledge of that experience. Students' discussed and written maths histories, material from interviews, any discussion with a tutor present, my own generalisations about students' aims, and class observation have all been questioned. I am not suggesting that these new forms of data are more 'true', but that as researchers we need to be more aware than I was of the transforming potential of students' participating as active researchers. This is a reflexive process: the students' work has changed my own ways of working.

The 'teacher/student interaction' observation (another of the six class observation schedules) identified the tutor as 'dominant'. When we discussed this in the group, the students said they thought it correct that a tutor should be dominant; that was part of my job. So the processes of joint research have not in any way made tutor and students 'equal', but they have, I argue, opened up for group discussion the question of what empowerment or democracy might mean in an adult basic education context.

We commonly say in adult basic education, in both literacy and maths, that we are aiming to 'empower' our students. The term is used differently by different writers and in different traditions; here I want only to point to three strands which have influenced the research reported here.

Adult basic education has been strongly influenced by Freire's work, which originated in work on adult literacy (e.g. Freire, 1972); though, not surprisingly, it is used more in adult literacy work, some mathematics educators also cite his work (e.g. D'Ambrosio, 1997; Fasheh, 1991; Frankenstein & Powell, 1994). Diana Coben gives a very useful critical overview of Freire's legacy for adults learning mathematics (Coben, 1997) and adult education more generally (Coben, 1998).

Within literacy work there is an established practice of using students' own language (spoken, dictated, written, taped ...) as learning material, and of publishing students' writing (see Mace (1995) for more detailed discussions, based in British experience). A parallel development in mathematics education, growing from studies in ethnomathematics, may be using students' own problems, methods, algorithms and mathematical traditions - seeking to acknowledge and value students' existing knowledge and strategies and build on them (e.g. Gerdes, 1997). Knijnik (1997) describes work with landless people working to develop both their traditional and 'standard' methods for land measurement so that they can choose and *use* mathematics so far as possible to their own advantage. (Elsewhere I discuss the use of students' own questions in both literacy and basic maths work (Tomlin, 1998).)

There are further influences from political theory and organisation in the women's liberation movement ('second wave', 1970s). 'Consciousness-raising groups' sought to build their own theory out of examination of their and other women's own experience. In common with those political groups, the mathematics work I discuss here relies on group solidarity and students' willingness to learn from each other; it is organised in small groups which sometimes meet together to share experience; it assumes that 'failure' in mathematics has, by and large, a socio-economic rather than individual origin; and it is optimistic.

Our ideas of 'building on students' experience' depend on students having space to express that experience. In the 'student-centred' approaches we seek to use in adult basic education, there is a risk that the focus on the individual's relationship with the tutor sidelines the students' relationships with each other; as tutors we may be inadvertently isolating students. When the tutor is pushed slightly to one side and students are seen as active researchers, some of the constraints of the usual discourse are shifted and students find or make contexts that may allow them to work more openly and to share critiques of their classes.

The Freirean concept of 'dialogue' as a route to 'empowerment' is effectively critiqued by Ellsworth. She found that recognising 'the students' and professor's asymmetrical positions of difference and privilege' (Ellsworth, 1994: 314) required recognising also that

> Acting as if our classroom were a safe space in which democratic dialogue was possible and happening did not make it so ... we needed classroom

> practices that confronted the power dynamics inside and outside of our classroom that made democratic dialogue impossible (ibid., 315).

The students' work illustrated here shows ways not of 'solving the problem' (of empowerment, or the curriculum, or teaching strategies) but of opening up issues with students themselves so that the explanations, solutions and compromises are not all those of the tutor (or government). The students are theorising about their own education. The research includes more formal research processes: members of the group who organised the students' meeting and magazine have presented a workshop for practitioners (Gray et al., 1999). As part of the project some students have also read others' research: for example, students have discussed Knijnik's (1997) work and tried out two Brazilian methods of area measurement; tried addition and subtractions approaches from Netherlands colleagues (Beishuizen & Anghileri, 1998); and discussed nurses' use of averages at work (Hoyles, 1999).

A research culture in the classroom, in which it is assumed that the students and tutor are learning together using both human and written study materials and that there is no ready-made answer, fosters shifts in both classroom and research discourses. This project lies broadly within the fields of participant action research (e.g. Merrifeld, 1997) and teacher research. Cochran-Smith & Lytle (1993) argue that

> What is missing [from current research] ... are the voices of teachers themselves, the questions that teachers ask, and the interpretive frames that teachers use to understand and to improve their own classroom practices. (op. cit. p. 7)
>
> Teacher researchers are both users and generators of theory. (ibid., p. 17)

I argue that this is true for student researchers too. Cochran-Smith & Lytle claim that

> because teacher researchers often inquire with their students, students themselves are also empowered as knowers. (ibid., p. 43)

The research described here is into the students' and tutors' own discourse, rather than some outside issue; the tutor is as much the 'object' of research as the student, and as we have seen, the students challenge the idea that tutors, however well-intentioned, 'empower' their students. Instead, it seems we may silence students: tutors are 'loudly spoken'; we should more often 'keep quiet, just take notes'.

Group work and discussion of the meanings of maths and of students' own maths histories can be used to generate reading materials which include a range of student voices, and which are based on students' own accounts of their experiences (whether of schooling, work, bringing up children, using maths or the classroom itself) rather than on the myth of the typical student. In turn the group's own work can be used for that group and others to read and discuss. For example, an edited version of the tape transcript of Pat's and Cathy's discussion (quoted above) was read aloud as a dialogue in other groups, as a starter for

discussion about the conduct of their courses. This form of dissemination and analysis (by students) of research data sidelines the tutor/researcher's voice and places students' experiences at the centre of the classroom discourse. Tutors remain tutors; the dominance of standard mathematics as a gatekeeper means students will often want formal maths qualifications and hence a restricted curriculum. However, inviting students to see themselves as researchers unsettles these discourse structures.

I wrote above that we cannot make many useful generalisations about students' views of maths, pedagogy and ways of learning because students themselves reject such generalisations. One central insight does emerge from the work discussed here, however: they want to be actively involved in the planning of their courses, including both curricular and pedagogical issues. The students represented here are *organising*: coming together to develop ideas alongside joint strategies for change. They are engaged in praxis, the term for the union of theory and action used by Freire and others (e.g. Fasheh, 1991). We don't always have to agree with them; as with any other writer, politician, learner, teacher or mathematician we can engage in debate (though as the students point out, echoing Ellsworth, we should beware that in such a debate tutors start from a dominant position). The organisational and teaching practices discussed here support students working towards this openness, solidarity and individual presence:

> The students in this project are researchers, and have a free hand to organise everything. We feel more relaxed. When tutors are there, we are more intimidated. Students want to work more on an equal basis. Sometimes the tutor is a friend; but in some situations the tutor is an authority. At the students' conference and at RaPAL [Research and Practice in Adult Literacy conference] we organised how the group discussed things, and what questions we asked. For example, one older woman at the students' conference was quiet and we wanted to be able to learn from her, so we asked her some questions, and she talked and talked. The room went silent - it was intense listening. We learned so much from her. We become experts listening to students from other centres, and students relate more easily to each other than to a tutor. We are in the same situation. (Gray et al., 1999: 18)

References

Beishuizen, M., & Anghileri, J. (1998). Which mental strategies in the early number curriculum? A comparison of British ideas and Dutch views, *King's College London* . London.

Coben, D. (1997, 1998). Paulo Freire's Legacy for Adults Learning Mathematics. In D. Coben & J. O'Donoghue (Eds.), *Proceedings of the Adults Learning Mathematics - 4*, University of Limerick, Limerick, Ireland, pp. (100-108). Goldsmiths College, University of London.

Coben, D. (1998). *Radical Heroes: Gramsci, Freire and the Politics of Adult Education*. New York & London: Garland Publishing, Inc.

Cochran-Smith, M., & Lytle, S. L. (1993). *Inside Outside: Teacher Research and Knowledge*. New York: Teachers College Press.

D'Ambrosio, U. (1997). Remembering Paolo Freire. *For the Learning of Mathematics, 17*(3), 5-6.

Ellsworth, E. (1994). Why doesn't this feel empowering? Working through the repressive myths of critical pedagogy. In Lynda Stone (with Gail Masuchika Boldt) (Ed.), *The Education Feminism Reader* . London: Routledge.

Fasheh, M. (1991). Mathematics in a social context: Math within education as praxis versus math within education as hegemony. In M. Harris (Ed.), *Schools, Mathematics and Work* . Basingstoke: Falmer Press.

Frankenstein, M., & Powell, A. B. (1994). Toward liberatory mathematics: Paolo Freire's epistemology and ethnomathematics. In P.L.McLaren & C. Lankshear (Eds.), *Politics of Liberation: Paths from Freire* (pp. 74-99). London: Penguin Books.

Freire, P. (1972). *Pedagogy of the Oppressed* (Myra Bergman Ramos, Trans.). Harmondsworth: Penguin Books.

Gerdes, P. (1997). On Culture, Geometrical Thinking and Mathematics Education. In A. Powell & M. Frankenstein (Eds.), *Ethnomathematics: challenging eurocentrism in Mathematics Education* (pp. 223-247). New York: Suny Press.

Gray, J., Kattah, V., Lesley, Sandra, Tomlin, A., & Tracy. (1999). Maths - Our Ideas All Came Into One. *RaPAL Bulletin, Spring 1999*(38), 14-18.

Hoyles, C. (1999). Mathematics in Use: Insights from a study of the workplace, *Plenary presentation at the Adults Learning Mathematics conferen*ce Sheffield, UK; research reported in the *Times Educational Supplement*, March 1998.

Knijnik, G. (1997). An Ethnomathematical Approach in Mathematical Education: A Matter of Political Power. In A. Powell & M. Frankenstein (Eds.), *Ethnomathematics: challenging eurocentrism in Mathematics Education* (pp. 403-410). New York: Suny Press.

Mace, J. (Ed.). (1995). *Literacy, Language and Community Publishing: Essays in Adult Education*. Cleveland (UK): Multilingual Matters Ltd.

Merrifeld, J. (1997). Participatory Action Research: Knowing, Learning, Doing. *Focus on Basics, 1*(A), Website http://hugse1.harvard.edu/~ncsall.

Tomlin, A. (1998). Who asks the questions? *Research and Practice in Adult Literacy Bulletin*(35), 7-12.

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